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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/675,997

10/02/2003

Hiroyuki Maruyama

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02/09/2006

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EXAMINER

KIM, PETER B

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,997

Applicant(s)

MARUYAMA, HIROYUKI

Examiner

Peter B. Kim

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Dec. 27, 2005 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 20 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claims 20 and 24, a conditioner is not disclosed in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2851

Regarding claim 17, the structure of motor to the rest of the exposure apparatus is not clearly defined.

Regarding claim 24, the temperature adjustment system which adjusts temperature of the projection optical system as disclosed in the specification seems to utilize fluorine based liquid (p. 16). However, claim 24 is directed to gas as the coolant not liquid.

The remaining claims, not specifically mentioned, are rejected for incorporating the defects from the base claim by dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-19, 21-23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emoto et al. (Emoto) (2003/0007136) in view of Ota (2002/0017616).

Emoto discloses an exposure apparatus comprising a stage to hold one of the substrate and the reticle (10), a motor (1) to drive the stage having a coil (1b), a first temperature adjustment system to adjust temperature of the motor having a flow path of pure water (3) through and an impurity removing unit (42, 43, 44) to remove and impurity in the pure water (Fig. 1 and abstract). Emoto also discloses a detection unit (27) to detect a temperature of pure water, and adjustment unit (46) to adjust a temperature and a controller to controller the adjustment unit (para 0055-0059) and a projection optical system (97). Emoto also discloses the

Art Unit: 2851

method of manufacturing a device comprising exposing the substrate, developing the substrate and processing to manufacture the device (Fig. 13, 14)

However, Emoto does not disclose a second temperature adjustment system, which has a flow path of a coolant selected from the group consisting of a fluorine-based inert solution, a gas and an antifreeze configured to adjust temperature of an atmosphere including a path of the light or the projection optical system. Ota discloses a second temperature adjustment system, which has a flow path of a coolant to adjust temperature of an atmosphere including a path of the light or the projection optical system (Fig. 1, para 0043). Ota discloses that the coolant is Fluorinert, which is a fluorine-based inert solution. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the adjustment system of Ota to the invention of Emoto in order to prevent deterioration of the optical system due to heat as taught by Ota in para 0042.

Claim 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emoto et al. (Emoto) in view of Ota as applied to claim 17 above, and further in view of Shima (2002/0057424).

The further difference between the modified Emoto and the claimed invention is a conditioner having a flow path of conditioning gas to condition the atmosphere, wherein the second temperature adjustment system is configured to adjust temperature of conditioning gas. Shima discloses the chamber (71), filter 46, a second adjustment system which has a flow path of a coolant (43) to adjust temperature of the gas (para 0121-0123). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the second

Art Unit: 2851

adjustment system of Shima to the invention of Emoto in order to further modify Emoto and to regulate the temperature in the chamber where the exposure takes place as taught by Shima in para 0121.

Response to Arguments

In response to the amendment, Emoto reference in combination with Ota reference is used to reject the claims.

In response to applicant's argument regarding Fluorinert, it is the brand name for the line of electronics coolant liquids, and it is an electrically insulating, inert perfluorocarbon fluid which is used in various cooling applications. (Wikipedia.com).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Peter B. Kim
Primary Examiner
Art Unit 2851

February 1, 2006